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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,791	03/26/2004	Cherng-Daw Hwang	7001P001	9630

8791 7590 04/28/2008
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EXAMINER

PATEL, CHANDRAHAS B

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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04/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,791	Applicant(s) HWANG ET AL.	
	Examiner Chandrabhas Patel	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/7/2008 have been fully considered but they are not persuasive.

Applicant argues that Radulovic does not teach a plurality of end-point processing devices to schedule and conduct multimedia communication sessions over the network, wherein each end-point processing device is associated with at least one routing server and the group server. Radulovic teaches controlling whether the calls should be connected or not connected. This is scheduling communication sessions over the network. Further applicant argues that CE 50 is not an end-processing device. However, examiner disagrees. The claim does not define what is meant by end-processing device therefore any device can be end-processing device.

Applicant argues that Matsubara does not teach if the notifications of successful bandwidth reservations and successful media processing resource reservations are not received with a preset time period, then the notifications are not considered to have been received. However, examiner disagrees. Only certain numbers of attempts are made within a time period. Notifications are sent after step 182. Bandwidth reservation is made in step 180 where bandwidth is being reallocated on one or more links. Media processing resource reservation is made as QoS paths are being set up and any processing is processing media since the claim does not describe what is meant by media processing.

Applicant argues that Matsubara does not teach dynamic neighbor configuration is determined based on hop counts along paths, delays between real-time routing servers, and common path traffic between real-time routing servers. Matsubara teaches first hop and last hop

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nodes are controlled and their characteristics are controlled by NMS. Col. 5, lines 55-64 teach paths are pre-set which contains network links with a particular bandwidth. This controls the hops counts along the path. DiffServ controls the delays between the servers by assigning particular QoS to packets. Common path traffic is controlled by assigning the links particular bandwidth to carry all network traffic and particular QoS traffic.

Applicant argues that Kurose does not teach if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one. However, examiner disagrees. If the bandwidth reservation cannot be done at first router 70 than the request comes to second routing server 50 cited in the office action.

Applicant argues that Cohen does not teach the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing. However, examiner disagrees. Cohen teaches only the routers that are supposed to receive the push message have decryption key. If they can't decrypt they forward the message to next server and the server having the decryption key is able to process the message if it's the server that is supposed to receive the message. Therefore, the router is concurrently doing the function of transit server if it does not need processing and processes the data if it's the correct sever receiving data.

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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2. Claims 1, 2, 5, 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Radulovic (USPN 7,215,663).

Regarding claim 1, Radulovic teaches a system comprising: a plurality of real-time routing servers to route and process multimedia communication sessions over a network [**Fig. 1, 70, 60, Col. 8, lines 21-23**]; a group server to manage the multimedia communication sessions over the network, wherein the group server is associated with the plurality of routing servers [**Fig. 1, 40 is coupled to plurality of servers 70, 60 via network 120**]; a plurality of end-point processing devices to schedule and conduct multimedia communication sessions over the network, wherein each end-point processing devices is associated with at least one routing server and the group server [**Fig. 1, 50, Col. 14, lines 18-27, each CE 50 is associated with routing server 70 and group server 40 via network 120**].

Regarding claim 2, Radulovic teaches the network is an IP network [**Col. 14, lines 16-18**], wherein each of the routing server, the group server, and the plurality of end-point processing devices have a separate IP address for identification [**Col. 15, lines 55-59**].

Regarding claim 5, Radulovic teaches and end-point processing device comprises a personal computer operated by a user [**Col. 12, lines 36-39**].

Regarding claim 6, Radulovic teaches and end-point processing device comprises a dedicated hardware device [**Col. 12, lines 36-39**].

3. Claims 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsubara (USPN 7,215,640).

Regarding claim 14, Matsubara teaches a method for reserving bandwidth and media processing resources [Fig. 5], comprising: checking whether media processing resources on a source real-time routing server are sufficient for a user to join a multimedia communication session in order for the user to communicate with all users participating in the multimedia communication session [Fig. 5, 156, Col. 5, lines 30-64, **if sufficient network resources are available user will be able to communicate with all nodes once admitted**]; for a multimedia communication session involving multiple real-time routing servers, sending reservation requests from the source real-time routing server to all destination real-time routing servers [Col. 5, lines 42-54]; checking for notifications of successful bandwidth reservations for paths from the source real-time routing server to destination real-time routing servers [Fig. 5, 176, Col. 5, lines 65-67, Col. 6, lines 1-4]; checking for notification of successful media processing resource reservations for destination real-time routing servers [Fig. 5, 176], wherein if the notifications of successful bandwidth reservations and successful media processing resource reservations are not received with a preset time period, then the notifications are not considered to have been received [Col. 7, lines 8-21, **only certain numbers of attempts are made within a time period. Notifications are sent after step 182. Bandwidth reservation is made in step 180 where bandwidth is being reallocated on one or more links. Media processing resource reservation is made as QoS paths are being set up and any processing is processing media since the claim does not describe what is meant by media processing**].

Regarding claim 15, Matsubara teaches the source real-time routing server checks for the notifications of successful bandwidth reservations and media processing resources [Col. 5, lines 65-67, Col. 6, lines 1-9].

Claim Rejections - 35 USC § 103

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Radulovic (USPN 7,215,663) in view of Akhtar (USPN 6,418,139).

Regarding claim 3, Radulovic teaches the system as discussed in rejection of claim 1.

However, Radulovic does not teach the real-time routing server includes dynamic route processing circuitry to dynamically determine a shortest delay path.

Akhtar teaches the dynamic route processing circuitry to dynamically determine a shortest delay path [**Col. 6, lines 13-18**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include circuitry to dynamically determine a shortest delay path so that when routes change new routes can be calculated dynamically [**Col. 3, lines 46-48**].

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Radulovic (USPN 7,215,663) in view of Huddle (USPN 6,950,407).

Regarding claim 4, Radulovic teaches a system as discussed in rejection of claim 1.

However, Radulovic does not teach the real-time routing server in a transit mode can pass through a multimedia communication session without processing data of the multimedia communication session.

Huddle teaches the real-time routing server in a transit mode can pass through a multimedia communication session without processing data of the multimedia communication session [**Col. 16, lines 30-35**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have real-time routing server operate in transit mode broaden the audience of providers that may interconnect with each other [**Col. 16, lines 26-27**].

6. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radulovic (USPN 7,215,663) in view of Matsubara (USPN 7,215,640).

Regarding claim 7, Radulovic teaches a method for determining a topology of a network, comprising: obtaining from a group server respective addresses for real-time routing servers to route and process multimedia communication sessions over the network [**Col. 8, lines 42-45, resource allocation table will require the knowledge of IP addresses since it's a IP based network**]; setting a static neighbor configuration [**Col. 8, lines 38-42, call setup requests is setting static neighbor configuration**].

However, Radulovic does not teach determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers.

Matsubara teaches determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers [**Col. 5, lines 42-64, also see response to arguments above**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine a neighbor configuration dynamically so that when location of the terminals changes the path could be changed automatically which occurs frequently in the network [Col. 2, lines 63-66].

Regarding claim 8, Radulovic further teaches forming a routing table based on neighbor information [Col. 15, lines 49-51].

Regarding claim 9, Radulovic further teaches determining the dynamic neighbor configuration based on a network administration policy [Col. 15, lines 49-51].

Regarding claim 10, Radulovic further teaches a dynamic neighbor configuration is repeated when a new real-time routing server is added to network [Col. 11, lines 59-67 – Col. 12, lines 1-5].

Regarding claim 11, Matsubara teaches obtaining information regarding quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers [Col. 5, lines 42-54]; rejecting all paths not meeting a quality of service requirement [Fig. 5, 184]; sorting candidate real-time routing servers according to distance measurements, including hop counts along paths [Col. 11, lines 51-57]; determining whether there is path between a first real-time routing server and a candidate real-time routing server [Fig. 5, Flow chart determines if path exists or not]; determining whether a delay between the first real-time routing server and the candidate real-time routing server is less than a maximum delay [Col. 1, lines 36-40]; determining whether a bandwidth capacity between the first real-time routing server and the candidate real-time routing

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server is greater than a minimum bandwidth capacity [**Col. 1, lines 36-40**]; determining whether the candidate real-time routing server shares a common path with neighbor real-time routing server [**Col. 1, lines 46-51**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine dynamic neighbor configuration based on above parameters so that high-bandwidth and real-time transfer of data can be done efficiently [**Col. 1, lines 34-36**].

Regarding claim 12, Matsubara teaches the operations of determining whether there is a path, whether a delay is less than a maximum delay, whether a bandwidth capacity is greater than a minimum bandwidth capacity, and whether a common path is shared are repeated for each candidate real-time routing server [**Col. 10, lines 53-67 – Col. 11, lines 1-12**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to repeat above steps when a new server connects to network so that QoS of the path can be satisfied [**Col. 10, lines 53-55**].

Regarding claim 13, Radulovic further teaches the network is an IP network [**Col. 14, lines 16-18**].

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Matsubara (USPN 7,215,640) in view of Radulovic (USPN 7,215,663).

Regarding claim 16, Matsubara teaches a method as discussed in rejection of claim 14.

However, Matsubara does not teach media processing resources are digital signal processing (DSP) resources.

Radulovic teaches media processing resources are DSP resources [**Col. 12, lines 36-39**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use DSP so that capacity of the system can be increased [**Col. 12, lines 36-49**].

8. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara (USPN 7,215,640) in view of Kurose et al. (USPN 7,076,540) and Cohen et al. (USPN 7,299,349).

Regarding claim 18, Matsubara teaches a method for reserving bandwidth in a network [**Fig. 5**] comprising: receiving at a first real-time routing server a bandwidth reservation request from an upstream real-time routing server [**Fig. 5, 152, Col. 6, lines 42-49**]; determining whether at least one downstream path to a destination real-time routing server has enough bandwidth [**Fig. 5, 156, Col. 6, lines 50-53**]; if the first real-time routing server is a destination only real-time routing server or a destination and transit real-time routing server, then reserving bandwidth for a path between the first real-time routing server, and the upstream neighbor real-time routing server [**Col. 11, lines 34-43**].

However, Matsubara does not teach if the first real-time routing server is a transit real-time routing server and not a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and leaving a usage count unchanged; if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server

concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing.

Kurose teaches if the first real-time routing server is a transit real-time routing server and not a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and leaving a usage count unchanged [**Col. 8, lines 53-61**]; if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one [**Fig. 4, 58, if the bandwidth reservation cannot be done at first router 70 than the request comes to second routing server 50, Col. 8, lines 53-61**]. Cohen teaches the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing [**Col. 8, lines 29-45**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to forward the bandwidth reservation request since RSVP-incompatible router cannot service the request [**Col. 7, lines 50-56**] and use a transit server to transfer data not needing processing so that encrypted messages can be transferred and security can be provided [**Col. 8, lines 29-45**].

Regarding claims 19, 22, Kurose teaches if a bandwidth reservation request is forwarded to a downstream neighbor real-time routing server, then checking for notification of a successful bandwidth reservation for a path from the first real-time routing server to the downstream neighbor real-time routing server [**Col. 9, lines 39-42**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to check if a bandwidth request was successful so that policy server can recognize that reservation was made for a bandwidth **[Col. 10, lines 1-3]**.

Regarding claim 20, Matsubara teaches a method for reserving bandwidth in a network **[Fig. 5]** comprising: receiving at a first real-time routing server a bandwidth reservation request from an upstream real-time routing server **[Fig. 5, 152, Col. 6, lines 42-49]**; determining whether at least one downstream path to a destination real-time routing server has enough bandwidth **[Fig. 5, 156, Col. 6, lines 50-53]**; selecting an upstream neighbor real-time routing server from upstream neighbor real-time routing servers sending a bandwidth reservation request within a predetermined time period **[Col. 6, lines 50-53, after the first-hop reserves bandwidth it is selected and its Flow-Path Table is searched]**; if the first real-time routing server is a destination only real-time routing server or a destination and transit real-time routing server, then reserving bandwidth for a path between the first real-time routing server, and the upstream neighbor real-time routing server **[Col. 11, lines 34-43]**.

However, Matsubara does not teach if the first real-time routing server is a transit real-time routing server and not a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and leaving a usage count unchanged; if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server

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concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing.

Kurose teaches if the first real-time routing server is a transit real-time routing server and not a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and leaving a usage count unchanged [**Col. 8, lines 53-61**]; if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one [**Fig. 4, 58**]. Cohen teaches the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing [**Col. 8, lines 29-45**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to forward the bandwidth reservation request since RSVP-incompatible router cannot service the request [**Col. 7, lines 50-56**] and use a transit server to transfer data not needing processing so that encrypted messages can be transferred and security can be provided [**Col. 8, lines 29-45**].

Regarding claim 21, Matsubara further teaches if only one of the upstream neighbor real-time routing servers sending bandwidth reservation requests within the predetermined time period has a maximum usage count, then selecting that upstream neighbor real-time routing server [**Col. 6, lines 50-53, after the first-hop reserves bandwidth it is selected and its Flow-Path Table is searched**]; if two or more of the upstream neighbor real-time routing servers

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sending bandwidth reservation requests within the predetermined time period have the maximum usage count, than selecting an upstream neighbor real-time routing server with an earliest arrival time for the bandwidth reservation request [Col. 12, lines 17-28].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is 571-270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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2616

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